Mitchell Halpern PhD 6 October 2010

Increasing the University's Role in Missouri Economic Development via Academic/Industrial Innovation Workshops

Background

Leveraging the academic/technical expertise of university faculty members in the service of economic development for the university and its home region while enriching—or at least not interfering with—the university's academic mission has been and will continue to be a major political, economic, and administrative issue. Historically, conventional approaches to tech transfer and/or sponsored research have relied on universities taking relatively passive approaches to both issues in the hope that commercial entities or VC firms would come along and "snatch up" desirable technologies or sponsored research opportunities with little or no active marketing by the university. While this sort of approach does serve to keep the academic "ivory tower" free of commercial "tarnish", it has also proven to be notoriously unsuccessful from the perspective of economic development. One needs only to look at the (not unique) example of Ohio State, a university that spends about $725 million per year on research but generates only about $2 million per year in licensing revenue to see that the standard tech transfer model is deficient. (In fact, Ohio State is currently in the process of revamping its entire technology commercialization operation by creating a more commercially-focused enterprise.)

So the question remains as to how to create a more successful model of university-driven economic development with no negative effect on the educational enterprise. From the perspective of tech transfer, many universities have recently decided at least to become more proactive in terms of marketing their IP portfolios, while some more "cutting edge" institutions have begun initiatives ranging from innovation training for students and faculty to alumni involvement in startup mentoring and gap fundraising and the formation of proof-of-concept/rapid prototyping centers/incubators in order to move inventions more effectively out of the academic lab and into the commercial environment. This short "white paper" suggests a novel approach to bolster academic/industrial ties while generating a "fee for service" revenue stream. In doing so, any implication that there are no university IP policy and culture issues either militating against this approach or that these issues will be easy to overcome is unintended. However, if we can generate consensus on the basic attractiveness of this notion, then the odds are good that we can navigate the trouble spots.

The Process

The innovation workshop process described below is a variation on the innovation process developed at SRI International (formerly the Stanford Research Institute) in the 1980s. SRI, founded by Stanford University in 1947 as a vehicle for Stanford faculty to participate in defense-related R&D activities that would be controversial in an academic setting, has a long history of innovation (e.g. the development of the computer mouse, magnetic ink for bank checks, enzyme-based laundry detergents etc), but a relatively poor track record in terms of both profiting from their innovations and building a significant portion of non-government business. As part of an initiative to improve this track record, SRI began to promote a service offering in which SRI scientists and engineers along with SRI business and industry experts would facilitate structured brainstorming and evaluation exercises/workshops with a similar mix of technology and business experts from the "partner" company aimed at uncovering new commercial opportunities based on the company's technology assets and/or core competences. The partner companies would pay SRI for this service and, in many cases, choose to work with SRI on either or both the R&D needed to commercialize these ideas and/or the development of the market entry strategies needed from a business perspective, thereby generating more revenue and shared IP (at least to some extent).

My concept would be to transplant this process (with variations as needed) to Missouri's universities. While SRI is not an academic institution per se it is an institution that, like universities, is built on a principal investigator model with a highly decentralized, matrix management structure, so the idea of moving the "SRI process" to Missouri's universities would appear to be reasonable. In addition, just as SRI's activities span the interdisciplinary gamut from military electronic systems to pharmaceutical development to advanced materials/nanotechnology, business consulting, and policy consulting, universities are at least equally diverse. At the core, these facilitated innovation workshops would bring together academic knowledge experts with commercial experts (both from within the business and/or law faculties and the corporate "client") to brainstorm and evaluate technical solutions to corporate/market needs. There are considerable benefits generated by this process including:

- Potential generation of revenue from corporate clients where the workshop would be priced as a service for which a fee would be charged by the university. Solving problems for corporate clients leads to improved business performance and improved job growth.

- Support for the early-stage development of constructive relationships between faculty and corporate leaders leading to increased sponsored research and, ultimately, licensing revenue for the university

- Evaluation of IP generated at university-only or university/corporate workshops leads to more efficient selection of technologies suitable for new start-ups or licensing to existing companies

- The outlined process requires relatively small investments in time without requiring large capital investment by the state. However, a refocusing of current university tech transfer offices would be necessary in order to become more market-driven and less technology-driven (in short, these offices need to act more like commercial entities and less like academic entities.).

Clearly the ultimate goal of this workshop program would be to develop a statewide university/industry nexus for technology commercialization and new business development. In addition, the program would pay for itself within five years.

Respectfully Submitted,

Mitchell Halpern PhD

Director of Technology Commercialization and Economic Development, UMSL

Member, St Louis Regional Planning Team